

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE: CSSTP-0007-00(414) Camden **OFFICE:** Engineering Services
P.I. No.: 0007414
Colerain Road Widening and Reconstruction **DATE:** September 29, 2009

FROM: Ronald E. Wishon, Project Review Engineer *REW*

TO: Glenn Durrence, District Engineer - Jesup

SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES

The VE Study for the above project was held June 8-11, 2009. Responses were received on September 29, 2009. Recommendations for implementation of Value Engineering Study Alternatives are indicated in the table below. The Project Manager shall incorporate the VE alternatives recommended for implementation to the extent reasonable in the design of the project.

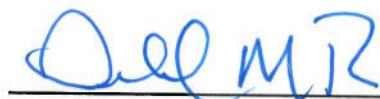
ALT #	Description	Potential Savings/LCC	Implement	Comments
DR-1	Eliminate the reverse crown	Design Suggestion	Yes	This will be done, with modifications. The proposed widening typical section uses a reverse crown to achieve minimum cover over the extended cross drain pipes. The proposed reverse crown section at the triple 30" cross drain at Sta. 218+75 will be retained. See Attachment "A". The proposed reverse crown section between Sta. 109+40 to Sta. 116+40 Lt. and Sta. 123+20 to Sta. 130+30 Lt. will be revised to a normal crown section.
DR-2	Modify or replace box culverts and utilize existing pavement from Sta. 265+00 to Sta. 295+00	\$115,371	Yes	This will be done. See Attachment "B" for details.
DR-3	Slope urban section shoulders away from roadway to reduce earthwork and drainage	\$130,310	Yes	This will be done.

BR-1	Use a two span bridge with MSE walls	Proposed = \$707,879 Actual = (-\$35,398) cost increase	No	Use of MSE walls limit the ability for future modifications that sloped embankments offer. Additionally, calculations performed by the design consultant indicate this recommendation would cause a cost increase of \$35,398. See Attachment "C" for calculations and Bridge Office concurrence.
BR-2	Reduce multi-use trail from 16 ½ ft to 12 ft	\$145,035	No	As proposed in the plans, the 10 ft multiuse path on the bridge meets the minimum clear width as indicated on page 55 of the AASHTO Guide for the Development of Bicycle Facilities. The 6'6" separation between the edge of shoulder and the shared use path eliminates the need for a physical barrier as noted on pages 35 and 36 of the above noted guide.
BR-3	Use twin bridges	\$555,968 (-\$297,260) cost increase	No	Calculations provided by the design consultant indicate that the use of twin bridges would cause a cost increase of \$274,965. Using a rural shoulder vs. urban shoulder would increase the cost by \$22,295. See Attachment "C" for calculations and Bridge Office concurrence.
RD-2	Utilize a 4 ft paved shoulder in the rural section	\$126,328	Yes	This will be done.
RD-3	Reconstruct ramps as a Tight Urban Diamond	\$1,094,467	No	The current design provides sufficient spacing (1606 ft) between the existing SB and NB ramps to allow for proposed and future left turn storage. The current ramp spacing also provides sufficient sight distances.

RD-12	Utilize the rural typical section from Sta. 186+21 to Sta. 251+00	\$785,367	No	There is substantial residential development planned for this portion of the project. The proposed sidewalks would serve the county high school. Using urban shoulders in this area also minimizes impacts to the existing tree canopy on the south side of Colerain Road by eliminating the roadside ditch.
RD-15	Add left turn lane eastbound at Wildcat Drive	Design Suggestion	Yes	This will be done.
RD-16	Reduce construction on Brazell Road	\$25,345	No	In order to comply with FHWA's limited access requirements, Brazell Road must be relocated to the proposed location.
RD-18	Make Jimmy Lane and Bessie Lane Right-in/Right-out	\$264,811	Yes	This will be done.
RD-19	Overlay existing ramps and widen to the inside	\$2,406,111	Yes	This will be done. See Attachment "D" for OMR concurrence.
RD-20	Reduce the sum of the ramp shoulders from 14 ft to 12 ft	\$249,137	No	Implementation of RD-19 will result in the overlay or short reconstruction of the existing ramp shoulders. The sum of the existing on-ramp shoulders is 14 ft (4 ft inside, 10 ft outside). The sum of the existing shoulders for the SB off-ramp is 14 ft and the sum of the existing shoulders for the NB off-ramp is 10 ft (4 ft inside, 6 ft outside).

The Office of Engineering Services concurs with the Project Manager's responses.

Approved:



Gerald M. Ross, PE, Chief Engineer

Date:

9/30/09

REW/LLM

Attachments

c: Genetha Rice Singleton
Paul Liles/Bill Duvall/Bill Ingalsbe/Stanley Kim
Brad Saxon/Dennis Odom/Rebecca Thigpen/Cassius Edwards/Billy Dampier
Sheree Smart
Will Murphy/Bryan Czech
Billy Smith
Nabil Raad
Lisa Myers
Matt Sanders

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE: CSSTP-0007-00(414) Camden County
P.I. No. 0007414
Widening Colerain Road
from I-95 to Kings Bay Road

OFFICE: District 5

DATE: September 29, 2009

FROM: Glenn Durrence, District Engineer

TO: Ronald E. Wishon, State Project Review Engineer

SUBJECT: Value Engineering Study-Responses

Reference is made to the recommendations that were contained in the Value Engineering Study- Final Report dated June 18, 2009 for the above referenced project. Our responses and recommendations are as follows:

1. Value Engineering Design Suggestion DR-1 – Eliminate the reverse crown.

A variation of the VE Design Suggestion DR-1 is recommended.

- *The proposed widening typical section uses a reverse crown to achieve minimum cover over the extended cross drainpipes. It is recommended to retain the proposed reverse crown section at the triple 30" cross drain at Sta 218+75 which is located on a 1490.33-foot horizontal tangent between two horizontal curves that are superelevated in the same direction as the reverse crown tangent. See Attachment "A" for the proposed roadway section at the cross drainpipe location. It is recommended that the proposed reverse crown roadway section between Sta 109+40 to Sta 116+40 left and Sta 123+20 to Sta 130+30 left be revised to a normal crown roadway section. The proposed profile would be raised to achieve minimum pipe cover for the triple 36" cross drain at Sta 113+20 and the triple 30" cross drain at Sta 126+75. No initial cost savings was associated with the design suggestion.*

2. Value Engineering Recommendation DR-2- Modify or replace box culvert and utilize existing pavement from Sta 265+00 to Sta 295+00.

A variation of the VE Recommendation DR-2 is recommended.

- *The proposed Colerain Road profile would be revised to overlay the existing pavement. Maximum leveling would be used to achieve minimum cover for the proposed full depth pavement on the north (left) side over the extended 5'X4' RCBC culverts at Sta 270+93 and Sta 287+16. The approximate minimum cover would be 1.2 feet at Sta 270+93 and 1.8 feet at Sta 287+16. The existing culvert wingwalls and parapet on the inlet (south or right) side would remain. See Attachment "B" for details.*

3. **Value Engineering Recommendation DR-3-** Slope urban section shoulders away from roadway to reduce earthwork and drainage.

A variation of the VE Recommendation DR-3 is recommended.

- *The urban shoulder would be revised to slope away from the proposed roadway except at locations where the existing urban shoulder is draining into the roadway and is retained or reconstructed at grade for proposed drainage and/ or sidewalk. This scenario would not change the estimated initial cost savings of \$130,130.*

4. **Value Engineering Recommendation BR-1-** Use a two span bridge with MSE walls.

Approval of the VE Recommendation BR-1 is not recommended.

- *Use of MSE walls limit the ability for future modification(s) that sloped embankment(s) offer. Project NH000-0095-01 (167) Proposed I-95/ Horse Stamp Church Road Interchange approximately 16 miles north of the I-95/ Colerain Road Interchange would construct a new four span bridge over I-95. The ultimate I-95 typical roadway section is the same for both locations. The estimated cost of a stage constructed two span bridge with MSE walls would exceed that of a four span bridge with end-rolls by approximately \$35,398. See Attachment "C" for cost comparisons and the Office of Bridge Design concurrence.*

5. **Value Engineering Recommendation BR-2-** Reduce the multi-use trail from 16'-6" to 12'-0".

Approval of the VE Recommendation BR-2 is not recommended.

- *The 10-foot multi-use path width on the bridge meets the minimum clear width of 8 foot plus the minimum 2-foot wide clear on new structures per page 55 of the AASHTO Guide for the Development of Bicycle Facilities dated August 1999. The 6'-6" (0'-6" curb + 6') separation between the edge of shoulder and the shared use path eliminates the need for a physical barrier as recommended when less than 5 feet per pages 35 and 36 of the aforementioned guide.*

6. **Value Engineering Recommendation BR-3-** Build twin bridges.

Approval of the VE Recommendation BR-3 is not recommended.

- *The proposed bridge is 293' long by 96'-11" wide (out to out) consisting of a 2' gutter and two 12' lanes in each direction separated by a 20' raised median. The construction of twin bridges would require 4' inside shoulders per the latest TOPPS for multi-lane rural divided highways and standard barriers. Therefore the westbound bridge width would be 49'-4" (1'-7 1/2" barrier and overhang + 4' shoulder + 2-12' lanes + 2' gutter + 16'-6" multi-use trail + 1'-2 1/2" parapet and overhang). The eastbound bridge width would be 38'-10" (1'-7 1/2" barrier and overhang + 4' shoulder + 2-12' lanes + 2' gutter + 6' sidewalk + 1'-2 1/2" parapet and overhang. The estimated cost of constructing twin bridges would exceed that of a single bridge by approximately \$274,965.*

- *The twin bridge scenario would require that the roadway centerline between the southbound and northbound ramps transition to and become an eastbound and westbound baseline which would provide adequate spacing to accommodate the rural 4' inside paved shoulders and grass median instead of the urban 20' raised median. Guardrail would be required on the inside shoulders to protect the parapets at both ends of the proposed twin bridges. The additional cost for a rural versus the urban shoulder is estimated at \$22,295.*
 - *The total estimated additional cost for twin bridges would be \$297,260. See Attachment "C" for cost comparisons and the Office of Bridge Design concurrence.*
7. **Value Engineering Recommendation RD-2** – Utilize a 4' paved shoulder in the rural section.
Approval of the VE Recommendation RD-2 is acceptable.
8. **Value Engineering Recommendation RD-3** – Reconstruct ramps as a tight urban diamond.
Approval of the VE Recommendation RD-3 is not recommended.
- *The current plans retain the existing interchange layout. The approximate 1606' spacing between the existing southbound and northbound ramps provides sufficient proposed and future left turn lane storage.*
 - *The existing ramp spacing also provides sufficient sight distances of approximately 818 feet and 787 feet to the southbound and northbound ramps respectively from the proposed Colerain Road profile high point at the approximate mid point of the new bridge over I-95.*
 - *See the recommendation to implement Value Engineering Recommendation RD-19 below. When in the future the ramps are reconstructed in concrete they can be relocated towards the infield area. This scenario would allow flexibility in ramp geometry such that any temporary pavement necessary to maintain ramp traffic would be minimized.*
9. **Value Engineering Recommendation RD-12** – Utilize the rural typical section from Station 186+21 to Station 251+00.
Approval of the VE Recommendation RD-12 is not recommended.
- *There is substantial residential development planned for this area. Masters Way, the main driveway at Sta 213+00 left has been constructed. The proposed sidewalks would serve the only county high school located on Wildcat Drive approximately 1.8 miles to the west.*
 - *Urban shoulders are extended to the proposed Colerain Road profile high point at Sta 251+75. This scenario minimizes impacts to the existing tree canopy on the south side of Colerain Road approximate Sta 244+50 to Sta 251+00 by eliminating the rural roadside ditch.*
10. **Value Engineering Design Suggestion RD-15**- Add left turn lane eastbound at Wildcat Drive.
Approval of the VE Design Suggestion RD-15 is recommended.
- *An eastbound left turn lane would be added in the median for access to the future roadway by others, which would be the fourth leg of the proposed Colerain Road/ Wildcat Drive signalized intersection. This roadway*

including a right turn lane from westbound Colerain Road would be constructed under this project to the radius returns and the turn lanes temporarily striped out. It is not recommended to allow eastbound u-turns at the intersection. Access to the parcel of land on the north side of Colerain Road would be maintained via Bristol Hammock Road or the future roadway by others. The distance between the median openings is 1134.29 feet. There is a triple cross culvert pipe that requires approximately 438 lf of proposed guardrail to protect. A right in/right out driveway with the required deceleration lane and taper would not be recommended within the remaining distance for safety and operational reasons at the proposed signalized Colerain Road/ Wildcat Drive intersection. The additional construction costs for this scenario would offset the disruption to the traveling public during the construction of the future roadway tie-in by others.

11. Value Engineering Recommendation RD-16- Reduce construction on Brazell Lane.

Approval of the VE Recommendation RD-16 is not recommended.

- The relocation of Brazell Lane is set at approximately 1211 feet from the intersection of Colerain Road and the I-95 northbound ramps. This location in addition to meeting the minimum FHWA requirement of 1000 feet also allows the proposed Access Road on the south side of Colerain Road to run adjacent to the easterly property line of the parcel of land which it runs through leaving a more desirable remnant of land to the west (left).

12. Value Engineering Recommendation RD-18- Make Jimmy Lane and Bessie Lane right in/right out only and eliminate the turn lanes.

Approval of the VE Recommendation RD-18 is recommended.

- The District concurs with the recommendation. Camden County expressed concerns about trucks having to make making u-turns versus left turn movements.

13. Value Engineering Recommendation RD-19- Overlay existing ramps and widen to the inside.

- *Approval of the VE Recommendation RD-19 is recommended. See Attachment "D" for the Office of Materials and Research concurrence.*

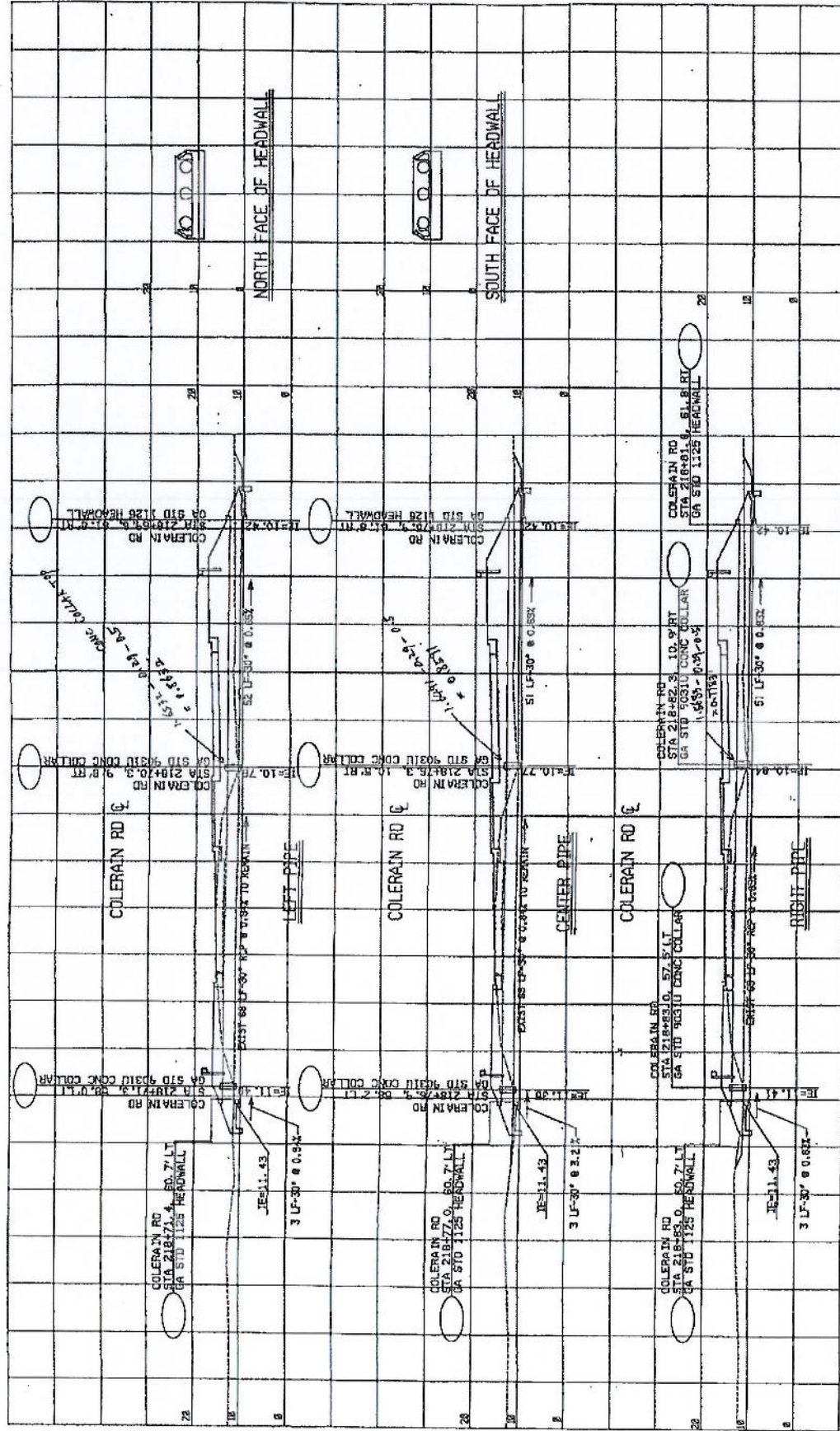
14. Value Engineering Recommendation RD-20- Reduce the sum of the ramp shoulders from 14' to 12'.

Approval of the VE Recommendation RD-20 is not recommended.

- Implementation of VE Recommendation RD-19 would result in the overlay or short reconstruction of the existing ramp shoulders. The sum of the existing on-ramp ramp shoulders is approximately 14' (4' inside, 10' outside). The sum of the existing shoulders is approximately 14' (4' inside, 10' outside) for the southbound off-ramp and approximately 10' (4' inside, 6' outside) for the northbound on-ramp.

ATTACHMENT "A"

TRIPLE X-DRAIN @ COLERAIN RD STA 218+75



218+75.0 60.7 LT
3 LF-30' @ 0.82%

ATTACHMENT "B"

ATTACHMENT "C"

From: Ingalsbe, Bill
Sent: Tuesday, September 29, 2009 9:26 AM
To: Thigpen, Rebecca
Subject: FW: CSSTP-0007-00(414) VE Responses

Rebecca,

I have reviewed Moreland Altobelli's responses to VE recommendations BR-1 and BR-3. We concur with both responses. We would rather build end slopes and a longer bridge as opposed to a shorter bridge and walls for about the same money. In addition, the proposed section along I-95 matches other interchanges in the area. If the proposed wide bridge was split into twin bridges, the inside barriers would need to be protected by guardrail. The proposed 20 ft raised median is not wide enough to place guardrail at this location. Therefore, the 20 ft raised median should be carried across the proposed bridge as initially shown.

Thanks,

Bill Ingalsbe

**Cost Estimate
Summary**

Project : 07104 Colerain road Over I-95
 Project Number : CSSTP-0007-00(414)
 Made By : HHD Date : 14-Jul-09
 Checked By: Date :

Option No.	Bridge Description	Estimated Cost
1	Proposed- 4 span Endrolls	\$ 2,132,782.72
1	VE -BR 1_2 span MSE walls	\$ 2,168,380.65
3	VE -BR 3 Dual Bridges	\$ 2,407,748.33
2	VE -BR 2- 12' sdwk	N/A

Total Bridge Sq FT= 2132783
 Price/Sq FT= \$ 75.11

PREFERRED OPTION IS OPTION #1(Proposed)

Cost Estimate
OPTION VE_BR1
 2 Spans
 BT 54/MSE Walls

Project : 07104 Colerain road Over I-95
 Project Number : 0
 Made By : HHD Date : 14-Jul-09
 Checked By : Date :

Tag	Pay Item	Description	Quantity	Unit	Unit Cost	Cost
64	211-0200	BRIDGE EXCAVATION, GRADE SEPARATION	51	CY	\$ 34.58	\$ 1,767.42
170	500-0100	GROOVED CONCRETE	2069	SY	\$ 4.67	\$ 9,681.71
171	500-1006	SUPERSTR CONCRETE, CL AA, BR NO -	718	LS	\$ 762.56	\$ 547,543.60
176	500-3002	CLASS AA CONCRETE	299	CY	\$ 488.44	\$ 146,068.25
198	507-9030	PSC BEAMS, AASHTO, BULB TEE, 54 IN, BR NO -	2266	LF	\$ 162.30	\$ 367,771.80
202	511-1000	BAR REINF STEEL	43960	LB	\$ 0.88	\$ 38,685.18
203	511-3000	SUPERSTR REINF STEEL, BR NO -	195305	LS	\$ 0.92	\$ 179,680.69
218	520-1147	PILING IN PLACE, STEEL H, HP 14 X 73	240	LF	\$ 72.18	\$ 17,323.20
250	522-1000	SHORING	1	LS	\$ 121,892.50	\$ 121,892.50
259	540-1101	REMOVAL OF EXISTING BR, STA NO -	1	LS	\$ 115,792.88	\$ 115,792.88
432	627-1020	MSE WALL FACE, 20 - 30 FT HT, WALL NO -	10341	SF	\$ 59.37	\$ 613,945.17
498	643-1152	CH LK FENCE, ZC COAT, 6 FT, 9 GA	412	LF	\$ 20.02	\$ 8,248.24

Bridge Sub Total = \$ 2,168,380.65
 Deck Area Per Side (sq ft) = BL (BW) = \$ 19,984.84
 Unit Cost (\$ / sq ft) = \$ 108.61

5% Mobilization \$ 108,419.00
 5% MOT \$ 108,419.00
 2% Contingency \$ 43,368.00

Total Bridge Cost = \$ 2,428,586.65

Cost Estimate
OPTION 1-Proposed
 4 Spans
 BT54_TP III/Endrolls

Project : 07104 Colerain road Over I-95
 Project Number : 0
 Made By : HHD Date : 14-Jul-09
 Checked By : - Date : -

Tag	Pay Item	Description	Quantity	Unit	Unit Cost	Cost
64	211-0200	BRIDGE EXCAVATION, GRADE SEPARATION	84	CY	\$ 34.58	\$ 2,916.25
121	441-0004	CONC SLOPE PAV, 4 IN	542	SY	\$ 45.81	\$ 24,826.99
170	500-0100	GROOVED CONCRETE	2746	SY	\$ 4.67	\$ 12,821.74
171	500-1006	SUPERSTR CONCRETE, CL AA, BR NO -	978	LS	\$ 762.56	\$ 745,932.48
176	500-3002	CLASS AA CONCRETE	538	CY	\$ 488.44	\$ 262,714.17
196	507-9003	PSC BEAMS, AASHTO TYPE III, BR NO -	1056	LF	\$ 142.77	\$ 150,765.12
198	507-9030	PSC BEAMS, AASHTO, BULB TEE, 54 IN, BR NO -	2167	LF	\$ 162.30	\$ 351,704.10
202	511-1000	BAR REINF STEEL	79066	LB	\$ 0.88	\$ 69,578.05
203	511-3000	SUPERSTR REINF STEEL, BR NO -	266069	LS	\$ 0.92	\$ 244,783.54
218	520-1147	PILING IN PLACE, STEEL H, HP 14 X 73	240	LF	\$ 72.18	\$ 17,323.20
250	522-1000	SHORING	1	LS	\$ 121,892.50	\$ 121,892.50
259	540-1101	REMOVAL OF EXISTING BR, STA NO -	1	LS	\$ 115,792.88	\$ 115,792.88
498	643-1152	CH LK FENCE, ZC COAT, 6 FT, 9 GA	586	LF	\$ 20.02	\$ 11,731.72

Bridge Sub Total = \$ 2,132,782.72
 Deck Area Per Side (sq ft) = BL (BW) = \$ 28,396.59
 Unit Cost (\$ / sq ft) = \$ 75.11

5% Mobilization \$ 106,639.00
 5% MOT \$ 106,639.00
 2% Contingency \$ 42,656.00

Total Bridge Cost = \$ 2,388,716.72

Cost Estimate
OPTION 3-VE BR3
4 Spans NB
BT-54_TP III/Endrolls

Project : 07104 Colerain road Over I-95
 Project Number : 0
 Made By : HHD Date : 14-Jul-09
 Checked By : Date :

Tag	Pay Item	Description	Quantity	Unit	Unit Cost	Cost
64	211-0200	BRIDGE EXCAVATION, GRADE SEPARATION	107	CY	\$ 34.58	\$ 3,688.53
121	441-0004	CONC SLOPE PAV, 4 IN	542	SY	\$ 45.81	\$ 24,826.99
170	500-0100	GROOVED CONCRETE	1177	SY	\$ 4.67	\$ 5,495.03
171	500-1006	SUPERSTR CONCRETE, CL AA, BR NO -	491	LS	\$ 762.56	\$ 374,719.83
174	500-2100	CONCRETE BARRIER	293	LF	\$ 42.80	\$ 12,540.40
176	500-3002	CLASS AA CONCRETE	547	CY	\$ 488.44	\$ 267,054.09
196	507-9003	PSC BEAMS, AASHTO TYPE III, BR NO -	576	LF	\$ 142.77	\$ 82,235.52
198	507-9030	PSC BEAMS, AASHTO, BULB TEE, 54 IN, BR NO -	1182	LF	\$ 162.30	\$ 191,838.60
202	511-1000	BAR REINF STEEL	80372	LB	\$ 0.88	\$ 70,727.45
203	511-3000	SUPERSTR REINF STEEL, BR NO -	133660	LS	\$ 0.92	\$ 122,967.23
218	520-1147	PILING IN PLACE, STEEL H, HP 14 X 73	240	LF	\$ 72.18	\$ 17,323.20
250	522-1000	SHORING	1	LS	\$ 121,892.50	\$ 121,892.50
259	540-1101	REMOVAL OF EXISTING BR, STA NO -	1	LS	\$ 115,792.88	\$ 115,792.88
498	643-1152	CH LK FENCE, ZC COAT, 6 FT, 9 GA	293	LF	\$ 20.02	\$ 5,865.86

Bridge Sub Total = \$ 1,416,988.12
 Deck Area Per Side (sq ft) = BL (BW) = \$ 14,454.66
 Unit Cost (\$ / sq ft) = \$ 98.03

5% Mobilization \$ 70,848.00
 5% MOT \$ 70,848.00
 2% Contingency \$ 28,339.00

Total Bridge Cost = \$ 1,587,003.12

Cost Estimate
OPTION 3-VE BR3
 4 Spans SB
 BT-54_TP III/Endrolls

Project : 07104 Colerain road Over I-95
 Project Number : 0
 Made By : HHD Date : 14-Jul-09
 Checked By : - Date :

Tag	Pay Item	Description	Quantity	Unit	Unit Cost	Cost
64	211-0200	BRIDGE EXCAVATION, GRADE SEPARATION	77	CY	\$ 34.58	\$ 2,651.13
121	441-0004	CONC SLOPE PAV, 4 IN	542	SY	\$ 45.81	\$ 24,826.99
170	500-0100	GROOVED CONCRETE	1177	SY	\$ 4.67	\$ 5,495.03
171	500-1006	SUPERSTR CONCRETE, CL AA, BR NO -	337	LS	\$ 762.56	\$ 256,730.14
174	500-2100	CONCRETE BARRIER	293	LF	\$ 42.80	\$ 12,540.40
176	500-3002	CLASS AA CONCRETE	374	CY	\$ 488.44	\$ 182,482.60
196	507-9003	PSC BEAMS, AASHTO TYPE III, BR NO -	480	LF	\$ 142.77	\$ 68,529.60
198	507-9030	PSC BEAMS, AASHTO, BULB TEE, 54 IN, BR NO -	985	LF	\$ 162.30	\$ 159,865.50
202	511-1000	BAR REINF STEEL	54920	LB	\$ 0.88	\$ 48,329.27
203	511-3000	SUPERSTR REINF STEEL, BR NO -	91574	LS	\$ 0.92	\$ 84,247.99
218	520-1147	PILING IN PLACE, STEEL H, HP 14 X 73	240	LF	\$ 72.18	\$ 17,323.20
250	522-1000	SHORING	1	LS	\$ 121,892.50	\$ 121,892.50
498	643-1152	CH LK FENCE, ZC COAT, 6 FT, 9 GA	293	LF	\$ 20.02	\$ 5,865.86

Bridge Sub Total = \$ 990,780.22
 Deck Area Per Side (sq ft) = BL (BW) = \$ 11,378.16
 Unit Cost (\$ / sq ft) = \$ 87.08

5% Mobilization \$ 49,539.00
 5% MOT \$ 49,539.00
 2% Contingency \$ 19,816.00

Total Bridge Cost = \$ 1,109,674.22

**Cost Estimate Report for file "CSSTP-0007-00(414)"
Colerain Rd Urban Median Vs. Rural Median In Between
Interstate Ramps**

Section URBAN MEDIAN					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
310-1101	65	TN	17.04	GR AGGR BASE CRS, INCL MATL	1107.60
441-0748	820	SY	55.09	CONCRETE MEDIAN, 6 IN	45173.80
441-6740	2200	LF	13.12	CONC CURB & GUTTER, 8 IN X 30 IN, TP 7	28864.00
668-1100	2	EA	2429.74	CATCH BASIN, GP 1	4859.48
Section Sub Total:					\$80,004.88

Section RURAL MEDIAN					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
208-0100	6300	CY	6.30	IN PLACE EMBANKMENT	39690.00
310-1101	60	TN	17.04	GR AGGR BASE CRS, INCL MATL	1022.40
402-3113	78	TN	74.31	RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	5796.18
402-3121	210	TN	59.47	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	12488.70
402-3190	110	TN	67.77	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	7454.70
641-1100	84	LF	52.35	GUARDRAIL, TP T	4397.40
641-1200	1100	LF	17.89	GUARDRAIL, TP W	19679.00
641-5012	4	EA	1762.58	GUARDRAIL ANCHORAGE, TP 12	7050.32
668-2100	2	EA	2360.78	DROP INLET, GP 1	4721.56
Section Sub Total:					\$102,300.26

PROJECT COLERAIN RD

SHEET NO. OF

SUBJECT RURAL VS. URBAN MEDIAN QUANTITIES

JOB NO. C5STP-0007-00 (414)

MADE BY CCT DATE 7-16-2009

IN BETWEEN RAMPS

CHKD. BY DATE

REF.
PAGEURBAN MEDIAN

$$C+G TP 7 (LF): 544 + 293 + 101 + 143 + 119 + 406 + 322 + 107 + 96 = 2,125 LF \quad \boxed{2,200 LF}$$

$$6" CONC MEDIAN (SY): 3357 + 3988 = 7345 SF / 9 = 816 SY \quad \boxed{820 SY}$$

$$GAB: 6/12' \times 2125' \times 10/12' = 885 H2 CF \times 150 lbs/CF = 132,812.50 lbs / 2000 = 66.4 TNS \quad \boxed{65 TNS}$$

2 - 10336 CATCH BASINS

RURAL MEDIAN

$$PVT: 2125 LF \times 4' PIP SHLDR = 8,500 SF / 9 = 944.44 SY$$

$$12.5mm SUPERPAVE: 944.44 SY \times 165 lbs/SY = 155,933.33 lbs / 2000 = 77.9 TNS \quad \boxed{78 TNS}$$

$$19mm SUPERPAVE: 944.44 SY \times 220 lbs/SY = 207,777.78 lbs / 2000 = 103.9 TNS \quad \boxed{110 TNS}$$

$$25mm SUPERPAVE: 944.44 SY \times 440 lbs/SY = 415,555.56 lbs / 2000 = 207.8 TNS \quad \boxed{210 TNS}$$

$$GAB: 944.44 SY \times 10/12' = 787.03 CF \times 150 lbs/CF = 118,055.56 / 2000 = 59.03 TNS \quad \boxed{60 TNS}$$

$$GUARDRAIL (PER DASTD 405): 4 \times 21 = 84 LF TP T \quad \boxed{4 TP 12 ANCHORS}$$

$$TP W = 12.5 + 50 + 200 = 262.5 \times 4 = 1,050 LF \quad \boxed{1100 LF}$$

$$EARTHWORK: ADD'L SF 41+50 = 328 SF$$

$$\Delta VOL 30+00 TO 41+50 = \left[550 \left(\frac{0 + 328}{2} \right) \right] / 27 = 3,340.74 CY$$

$$ADD'L SF 45+00 = 317 SF$$

$$\Delta VOL 45+00 TO 50+00 = \left[500 \left(\frac{0 + 317}{2} \right) \right] / 27 = 2,935.19 CY$$

$$TOTAL EARTHWORK = 3340.74 + 2935.19 = 6,276 CY \quad \boxed{6,300 CY}$$

2 - 90315 DROP INLETS

ATTACHMENT "D"

From: Jubran, Abdallah (AJ)
Sent: Tuesday, September 29, 2009 9:19 AM
To: Thigpen, Rebecca; Myers, Lisa
Subject: VE Study Implementation PI 0007414

Rebecca and Lisa,

The PDC concurs with the District to overlay the existing ramps and reconstruct the Interchange to current standards in a future Widening and Interchange Improvement project.

A.J. Jubran, P.E.
State Pavement Engineer
Georgia Department of Transportation
404-363-7582
404-363-7684 fax

ajubran@dot.ga.gov

Help GDOT serve you better. Visit <http://www.howsmyservice.dot.ga.gov> and rate the service you received from Team GDOT.

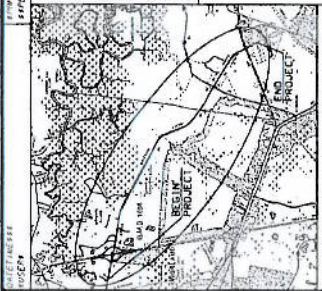
Help GDOT serve you better. Visit <http://www.howsmyservice.dot.ga.gov> and rate the service you received from Team GDOT.

9/29/2009

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

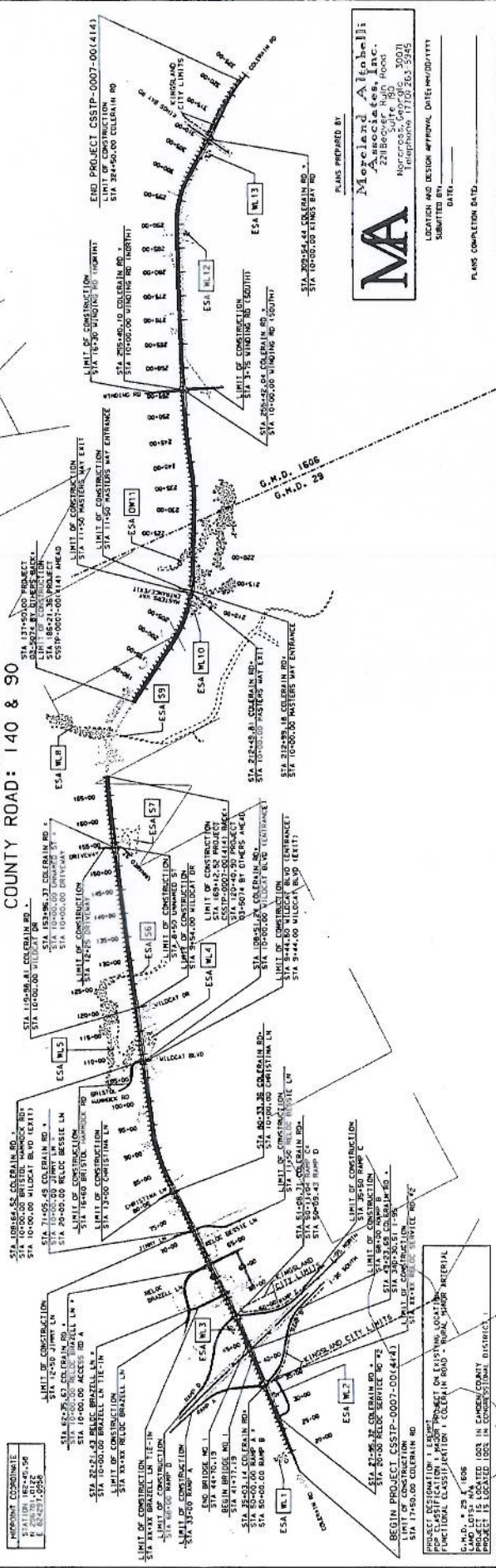
PLAN AND PROFILE OF PROPOSED WIDENING COLERAIN ROAD FROM I-95 TO KINGS BAY ROAD FEDERAL AID PROJECT

GA. DOT PI NO. 0007414-
CSSTP-0007-00(414) CAMDEN COUNTY
CONTROLLED ACCESS
FEDERAL ROUTE:
STATE ROUTE:
COUNTY ROAD: 140 & 90



LOCATION SKETCH

NOTE: THE CO-ORDINATES LISTED ARE EAST ZONE
GRID CO-ORDINATES BASED ON THE GA STATE PLANE
COORDINATE SYSTEM. THE ELEVATIONS LISTED ARE
MEAN SEA LEVEL ELEVATIONS. THE HORIZONTAL DATUM IS NAD 83.
VERTICAL DATUM IS NAVD 83.



DESIGN DATA:

TRAFFIC ADT:	10000 (2000)
TRAFFIC ADT:	2000 (2000)
DESIGN SPEED:	55 MPH
DIRECTIONAL DIST:	55%
% TRUCKS:	6%
% 24 HR TRUCKS:	45 MPH
SPEED DESIGN:	45 MPH

LENGTH OF PROJECT

NO. OF	NO. OF
STATIONS	STATIONS
1000	1000
2000	2000
3000	3000
4000	4000
5000	5000
6000	6000
7000	7000
8000	8000
9000	9000
10000	10000

DESIGN DATA:

TRAFFIC ADT:	10000 (2000)
TRAFFIC ADT:	2000 (2000)
DESIGN SPEED:	55 MPH
DIRECTIONAL DIST:	55%
% TRUCKS:	6%
% 24 HR TRUCKS:	45 MPH
SPEED DESIGN:	45 MPH

LENGTH OF PROJECT

NO. OF	NO. OF
STATIONS	STATIONS
1000	1000
2000	2000
3000	3000
4000	4000
5000	5000
6000	6000
7000	7000
8000	8000
9000	9000
10000	10000

PLANS PREPARED BY:
NA
Moreland Associates, Inc.
2218 Beaver Run Road
Norcross, Georgia 30071
Telephone 770/263-5945

LOCATION AND DESIGN APPROVAL: DATE: 10/01/11
SUBMITTED BY: DATE: 10/01/11
PLANS COMPLETION DATE: 10/01/11
DATE: 10/01/11
DATE: 10/01/11

SCALE IN FEET
0 200 400
DATE: 10/01/11
DATE: 10/01/11
DATE: 10/01/11

CSSTP-0007-00(414) CAMDEN COUNTY

PRECONSTRUCTION STATUS REPORT FOR PI:321880-0007414

CR 90/COLERAIN ROAD FM I-95 TO KINGS BAY ROAD

PROJ ID : 0007414
COUNTY : Camden
LENGTH (MI) : 4.90
PROJ NO.: CSSTP-0007-00(414)
PROJ MGR: 3RT/RT
AOHD Initials: Program Delivery
OFFICE : Local Design, Reimbursed by GDOT funds
CONSULTANT: Camden County
SPONSOR : Moreland Altobelli Associates, Inc.
DESIGN FIRM: Moreland Altobelli Associates, Inc.

MPO: Not Urban
TIP #:
MODEL YR :
TYPE WORK: Widening
CONCEPT: WIDEN & RECONST
PROG TYPE: Reconstruction/Rehabilitation
Prov. for ITS: N
BOND PROJ.:

DOT DIST: 5
CONG. DIST: 1
BIKE: Y
MEASURE: E
NEEDS SCORE:
BRIDGE SUFF:

MGMT LET DATE : 12/15/2011
MGMT ROW DATE : 06/15/2010
BASELINE LET DATE: 12/15/2011
SCHED LET DATE : 2/9/2012
WHO LETS?: GDOT Let
LET WITH :

BOND PROGS.			TASKS		ACTUAL START	ACTUAL FINISH	%	PROGRAMMED FUNDS					STIP AMOUNTS					
LATE START	LATE FINISH							Activity	Approved	Proposed	Cost	Fund	Status	Date Auth	Activity	Cost	Fund	
11/20/2009		Concept Development	8/1/2006	3/12/2009	100	PE	2007	2007	171,095.00	HY10	AUTHORIZED	12/5/2006						
		Concept Meeting	9/27/2007	9/27/2007	100	PE	2007	2007	656,550.00	L240	AUTHORIZED	12/5/2006						
		PM Submit Concept Report	11/7/2007	11/7/2007	100	PE	2007	2007	172,355.00	LY10	AUTHORIZED	12/5/2006						
		Receive Preconstruction Concept Approval	2/10/2008	2/18/2008	100	PE	2007	2007	5,260,000.00	LOC	PRECST							
		Management Concept Approval Complete	9/15/2008	3/12/2009	100	ROW	LOCL	LOCL	2017	38,453,732.84	L250	PRECST						
		Value Engineering Study	2/9/2009		83	CST	LR											
		Public Information Open House Held	9/11/2008	9/11/2008	100													
		Environmental Approval	10/28/2008		14													
		Pub Hear Held/Comm Resp (EA/FONSI, GEPA)			0													
		Mapping	5/29/2009	6/18/2009	100													
10/9/2009		Field Surveys/SDE	5/22/2009	6/18/2009	100													
		Preliminary Plans	5/22/2008		13													
		Preliminary Bridge Design	8/9/2009	8/14/2009	100	PE Cost Est Amt:												
		Underground Storage Tanks			0	PE Cost Est Amt:												
		404 Permit Obtainment			0	PE Cost Est Amt:												
		PFPR Inspection			0	PE Cost Est Amt:												
		R/W Plans Preparation			0	ROW Cost Est Amt:												
		R/W Plans Final Approval			0	CST Cost Est Amt:												
		L & D Approval			0													
		R/W Acquisition			0													
10/9/2009		Stake R/W			0													
		Soil Survey			0													
		Bridge Foundation Investigation			0													
		Final Design			0													
		Final Bridge Plans Preparation			0													
		FFPR Inspection			0													
		Submit FFPR Responses (OES)			0													

Bridge: WEI 09/02/09 CONSUL - MA&A - 100% P.L. - 0% F.P.
Design: C-VE recommendations sent to Atlanta sent back to consultant
EIS: SMART- CE/OnSchedfor6/10ROW(9-24-09)
LGPA: REV PFA SGN CAMDEN DO ROW/UTL/100% PE OVER \$800K (FED)/DOT TO DO CST 8-4-09.
Planning: Bike facilities required, see 2005 Camden County Bicycle and Pedestrian Plan
Programing: ADDED BY PNRC 5-05
Traffic Op: AWAITING CNSLT PFPR PLANS FOR REVIEW
EMG: RECST/REHAB (WIDENING); PE BY LOCALS AS PER DISTRICT.

District Comments

ADO03-05-09/FIWA is sending letter stating that logical termini is good;
 ADO06-29-09/Received VE Study Final Report;
 RYT/6-30-09/VE Report sent to consultant for their responses; received RW estimate-30-09
 RYT/7-28-09/Responses from consultant received; needs district review before submitting;
 ADO08-20-09/Submitted cost estimate update for right of way;
 RYT/9-2-09/Sent VE to Atlanta for approval-sent back to consultant for changes
 RYT/9-21-09/requested VE comments back from consultant, no response at this time

Prel. Parcel CT: 67
Under Review:
Released:
Total Parcel in ROW System:
Options - Pending:
Condemnations- Pend:
Cond. Filed:
Relocations:
Acquired:
Acquired by: LOC
Acquisition MGR: Cravey, Mack (LOC)
R/W Cert Date:
DEEDS CT: